Figure S1. R of a heterozygous locus is determined by dividing the smaller allele (labelled as allele A) by the larger allele (labelled as allele B). A locus with allelic ratio of >1.7 and <0.8 was considered as allelic imbalance or partial loss of heterozygosity. allelic imbalance or partial loss of heterozygosity and will be counted as microsatellite unstable. R, allelic ratio; PFI, peak fluorescence intensity; bp, base pair; N, normal sample; T, tumor sample.

$$R = \frac{\text{Peak height of allele A}}{\text{Peak height of allele B}}$$

Allelic balance
$R \leq 1.7$

Allelic imbalance
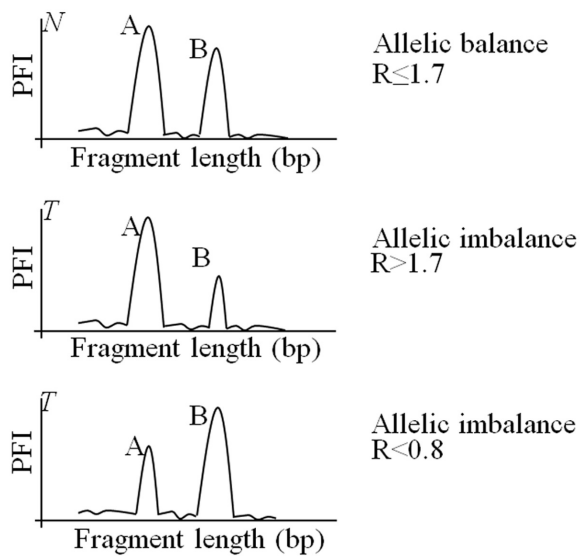$R > 1.7$

Allelic imbalance
$R < 0.8$

Figure S2. Detection of *KRAS* and *BRAF* mutations in colorectal cancer patients by Sanger sequencing. (A) Electropherogram of *KRAS* exon 2 (sense strand). (a) Wild-type codon 12 and 13 in fresh tumor sample K16. (b) c.35G>A (p.G12D) mutation in fresh tumor sample K28. (c) c.35G>T (p.G12V) mutation in fresh tumor sample K59. (d) c.34G>T (p.G12C) mutation in tumor-archived FFPE sample M5. (e) c.38G>A (p.G13D) mutation in fresh tumor sample K32. (B) Electropherogram of *BRAF* exon 15 (sense strand). (a) Wild-type codon 600 and 601 in fresh tumor sample K27. (b) The c.1799T>A (V600E) mutation in fresh tumor sample K02. (c) c.1801A>G (p.K601E) mutation in fresh tumor sample K64. The site of mutation is indicated by the black arrowhead.